

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 07039-296001	Application No. 09/723,121
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		Applicant Gautam Khurana et al.	
		Filing Date November 27, 2000	Group Art Unit 1616

(37 CFR §1.98(b))

### U.S. Patent Documents

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	2,223,538	12/03/40	Taylor et al.			
	AB	2,226,529	12/31/40	Austin			
	AC	2,257,911	10/07/41	Kraft			
	AD	2,372,669	04/03/45	Haney			
	AE	2,418,482	04/08/47	Robinson			
	AF	2,752,358	06/26/56	Ehrhart			
	AG	2,874,153	02/17/59	Bowman et al.			
	AH	2,882,263	04/14/59	Natta et al.			
	AI	2,913,442	11/17/59	Matlack			
	AJ	2,916,475	12/08/59	Caldwell et al.			
	AK	3,012,994	12/12/61	Bell et al.			
	AL	3,112,300	11/26/63	Natta et al.			
	AM	3,112,301	11/26/93	Natta et al.			
	AN	3,143,527	08/04/64	Wittbecker			
	AO	3,238,553	03/08/66	Bailey et al.			
	AP	3,595,952	07/27/71	Davidson et al.			
	AQ	3,745,061	07/10/73	Champaneria et al.			
	AR	4,279,053	07/21/81	Payne et al.			
	AS	4,441,227	04/10/84	d'Argembeau			
	AT	4,688,857	08/25/87	Boucherie			
	AU	4,987,071	01/22/91	Cech et al.			
	AV	5,274,873	01/04/94	Shields			
	AW	5,335,389	08/09/94	Curtis et al.			
	AX	5,511,275	04/30/96	Volpenhein et al.			
	AY	5,681,335	10/28/97	Serra et al.			
	AZ	6,127,525	10/03/00	Crystal et al.			

### Foreign Patent Documents or Published Foreign Patent Applications

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Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AAA	WO 95/15342	06/08/95	PCT				
	ABB	448 061	Unknown	Belgium				

### Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	ACC	Agrawal et al., "Oligodeoxynucleoside phosphoramidates and phosphorothioates as inhibitors of human immunodeficiency virus," <u>Proc. Natl. Acad. Sci. USA</u> , 1988, 85:7079-7083
	ADD	Barthel et al., "Laboratory Methods - Gene Transfer Optimization with Lipospermine-Coated DNA," <u>DNA Cell Biology</u> , 1993, 12(6):553-560
	AEE	Behr et al., "Efficient gene transfer into mammalian primary endocrine cells with lipopolyamine-coated DNA," <u>Proc. Natl. Acad. Sci. USA</u> , 1989, 86:6982-6986
	AFF	Bergelson et al., "Isolation of a Common Receptor for Coxsackie B Viruses and Adenoviruses 2 and 5," <u>Science</u> , 1997, 275:1320-1323
	AGG	Blau and Springer, "Molecular Medicine - Gene Therapy - A Novel Form of Drug Delivery," <u>New England J. Med.</u> , 1995, 333(18):1204-1207
	AHH	Boudin et al., "Isolation and Characterization of Adenovirus Type 2 Vertex Capsomer (Penton Base)," <u>Virology</u> , 1979, 92:125-138
	AII	Brenner, "Reports of Adenovector "Death" Are Greatly Exaggerated," <u>Mol. Ther.</u> , 2000, 1(3):205
	AJJ	Burch and Mahan, "Oligonucleotides Antisense to the Interleukin 1 Receptor mRNA Block the Effects of Interleukin 1 in Cultured Murine and Human Fibroblasts and in Mice," <u>J. Clin. Invest.</u> , 1991, 88:1190-1196
	AKK	Chapman et al., "Gene Transfer Into Coronary Arteries of Intact Animals With a Percutaneous Balloon Catheter," <u>Circ. Res.</u> , 1992, 71:27-33
	ALL	Chen et al., "Multitarget-ribozyme directed to cleave at up to nine highly conserved HIV-1 env RNA regions inhibits HIV-1 replication-potential effectiveness against most presently sequenced HIV-1 isolates," <u>Nucleic Acids Res.</u> , 1992, 20(17):4581-4589
	AMM	Chen et al., "Expression and Function of Recombinant Endothelial Nitric Oxide Synthase Gene in Canine Basilar Artery," <u>Circ. Res.</u> , 1997, 80:327-335
	ANN	Chen et al., "Effects of <i>in vivo</i> adventitial expression of recombinant endothelial nitric oxide synthase gene in cerebral arteries," <u>Proc. Natl. Acad. Sci. USA</u> , 1997, 94:12568-12573
	AOO	Chen et al., "Transfer and expression of recombinant nitric oxide synthase genes in the cardiovascular system," <u>Trends in Pharmacological Sciences</u> , 1998, 19:276-286
	APP	Clapp et al., "Fetal Liver Hematopoietic Stem Cells As a Target for In Utero Retroviral Gene Transfer," <u>Blood</u> , 1991, 78(4):1132-1139
	AQQ	Collins and Olive, "Reaction Conditions and Kinetics of Self-Cleavage of a Ribozyme Derived from <i>Neurospora</i> VS RNA," <u>Biochem.</u> , 1993, 32:2795-2799
	ARR	Crawford-Miksza and Schnurr, "Analysis of 15 Adenovirus Hexon Proteins Reveals the Location and Structure of Seven Hypervariable Regions Containing Serotype-Specific Residues," <u>J. Virol.</u> , 1996, 70(3):1836-1844
	ASS	Crystal et al., "Administration of an adenovirus containing the human <i>CFTR</i> cDNA to the respiratory tract of individuals with cystic fibrosis," <u>Nat. Gen.</u> , 1994, 8:42-51

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### Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	ATT	Crystal, "Transfer of Genes to Humans: Early Lessons and Obstacles to Success," <u>Science</u> , 1995, 270:404-410
	AUU	Dropulić et al., "Functional Characterization of a U5 Ribozyme: Intracellular Suppression of Human Immunodeficiency Virus Type 1 Expression," <u>J. Virol.</u> , 1992, 66(3):1432-1441
	AVV	Dyer and Herrling, "Progress and Potential for Gene-Based Medicines," <u>Mol. Ther.</u> , 2000, 1(3):213-224
	AWW	Felgner et al., "Lipofection: A highly efficient, lipid-mediated DNA-transfection procedure," <u>Proc. Natl. Acad. Sci. USA</u> , 1987, 84:7413-7417
	AXX	Ferry et al., "Retroviral-mediated gene transfer into hepatocytes <i>in vivo</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 1991, 88:8377-8381
	AYY	Guerrier-Takada et al., "The RNA Moiety of Ribonuclease P Is the Catalytic Subunit of the Enzyme," <u>Cell</u> , 1983, 35:849-857
	AZZ	Hampel and Tritz, "RNA Catalytic Properties of the Minimum (-)sTRSV Sequence," <u>Biochem.</u> , 1989, 28(12):4929-4933
	AAAA	Hampel et al., "'Hairpin' catalytic RNA model: evidence for helices and sequence requirement for substrate RNA," <u>Nucleic Acids Res.</u> , 1990, 18(2):299-304
	ABBB	Heistad and Faraci, "Gene Therapy for Cerebral Vascular Disease," <u>Stroke</u> , 1996, 27(9):1688-1693
	ACCC	Khurana et al., "Pathophysiological basis of cerebral vasospasm following aneurysmal subarachnoid haemorrhage," <u>J. Clin. Neuroscience</u> , 1997, 4(2):122-131
	ADDD	Khurana et al., "Adenovirus-Mediated Gene Transfer to Human Cerebral Arteries," <u>J. Cereb. Blood Flow Metab.</u> , 2000, 20:1360-1371
	AEEE	Kim et al., "Transcriptional Targeting of Replication-defective Adenovirus Transgene Expression to Smooth Muscle Cells <i>in Vivo</i> ," <u>J. Clin. Invest.</u> , 1997, 100:1006-1014
	AFFF	Kitsis et al., "Hormonal modulation of a gene injected into rat heart <i>in vivo</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 1991, 88:4138-4142
	AGGG	Leclerc et al., "Percutaneous Arterial Gene Transfer in a Rabbit Model," <u>J. Clin. Invest.</u> , 1992, 90:936-944
	AHHH	Leonetti et al., "Antibody-targeted liposomes containing oligodeoxyribonucleotides complementary to viral RNA selectively inhibit viral replication," <u>Proc. Natl. Acad. Sci. USA</u> , 1990, 87:2448-2451
	AIII	Lim et al., "Direct <i>In Vivo</i> Gene Transfer Into the Coronary and Peripheral Vasculatures of the Intact Dog," <u>Circulation</u> , 1991, 83:2007-2011
	AJJJ	Loose-Mitchell, "Antisense nucleic acids as a potential class of pharmaceutical agents," <u>Trends in Pharmacological Sciences</u> , 1988, 9:45-47
	AKKK	Marcus-Sekura, "Techniques for Using Antisense Oligodeoxyribonucleotides to Study Gene Expression," <u>Anal. Biochem.</u> , 1988, 172:289-295
	ALLL	Morling and Russell, "Enhanced transduction efficiency of retroviral vectors coprecipitated with calcium phosphate," <u>Gene Therapy</u> , 1995, 2:504-508
	AMMM	Nabel et al., "Recombinant Gene Expression <i>in Vivo</i> Within Endothelial Cells of the Arterial Wall," <u>Science</u> , 1989, 244:1342-1344
	ANNN	Natta, "Une Nouvelle Classe de Polymeres d' $\alpha$ -Olefines ayant une Régularité de Structure Exceptionnelle," <u>J. Polymer Science</u> , 1955, 16:143-154 (Synopsis only is in English)

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	AOOO	Newman et al., "Adenovirus-mediated Gene Transfer into Normal Rabbit Arteries Results in Prolonged Vascular Cell Activation, Inflammation, and Neointimal Hyperplasia," <u>J. Clin. Invest.</u> , 1995, 96:2955-2965
	APPP	O'Brien, "Gene transfer and vascular disease," <u>Journal of the Irish Colleges of Physicians and Surgeons</u> , 1998, 27:33-39
	AQQQ	Ojwang et al., "Inhibition of human immunodeficiency virus type 1 expression by a hairpin ribozyme," <u>Proc. Natl. Acad. Sci. USA</u> , 1992, 89:10802-10806
	ARRR	Onoue et al., "Adventitial Expression of Recombinant Endothelial Nitric Oxide Synthase Gene Reverses Vasoconstrictor Effect on Endothelin-1," <u>J. Cereb. Blood Flow Metab.</u> , 1999, 19(9):1029-1037
	ASSS	Ooboshi et al., "Adenovirus-Mediated Gene Transfer In Vivo to Cerebral Blood Vessels and Perivascular Tissue," <u>Circ. Res.</u> , 1995, 77:7-13
	ATTT	Perrotta and Been, "Cleavage of Oloribonucleotides by a Ribozyme Derived from the Hepatitis Virus RNA Sequence," <u>Biochem.</u> , 1992, 31:16-21
	AUUU	Pettersson, "Structural and Nonstructural Adenovirus Proteins," <u>The Adenoviruses</u> , Ginsberg (ed.), 1984, Plenum Press, New York, NY, Chapter 6, pp. 205-270
	AVVV	Price et al., "Lineage analysis in the vertebrate nervous system by retrovirus-mediated gene transfer," <u>Proc. Natl. Acad. Sci. USA</u> , 1987, 84:156-160
	AWWW	Quantin et al., "Adenovirus as an expression vector in muscle cells <i>in vivo</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 1992, 89:2581-2584
	AXXX	Richter et al., "Adeno-associated virus vector transduction of vascular smooth muscle cells <i>in vivo</i> ," <u>Physiol. Genomics</u> , 2000, 2:117-127
	AYYY	Roberts et al., "Three-Dimensional Structure of the Adenovirus Major Coat Protein Hexon," <u>Science</u> , 1986, 232:1148-1151
	AZZZ	Rosenfeld et al., "Adenovirus-Mediated Transfer of a Recombinant $\alpha 1$ -Antitrypsin Gene to the Lung Epithelium <i>in Vivo</i> ," <u>Science</u> , 1991, 252:431-434
	AAAAA	Rosenfeld et al., "In Vivo Transfer of the Human Cystic Fibrosis Transmembrane Conductance Regulator Gene to the Airway Epithelium," <u>Cell</u> , 1992, 68:143-155
	ABBBB	Rossi et al., "Ribozymes as Anti-HIV-1 Therapeutic Agents: Principles, Applications, and Problems," <u>Aids Research and Human Retroviruses</u> , 1992, 8(2):183-189
	ACCCC	Sarin et al., "Inhibition of acquired immunodeficiency syndrome virus by oligodeoxynucleoside methylphosphonates," <u>Proc. Natl. Acad. Sci. USA</u> , 1988, 85:7448-7451
	ADDDD	Sarver et al., "Ribozymes as Potential Anti-HIV-1 Therapeutic Agent," <u>Science</u> , 1990, 247:1222-1225
	AEEEE	Saville and Collins, "A Site-Specific Self-Cleavage Reaction Performed by a Novel RNA in <i>Neurospora</i> Mitochondria," <u>Cell</u> , 1990, 61:685-696
	AFFFF	Saville and Collins, "RNA-mediated ligation of self-cleavage products of a <i>Neurospora</i> mitochondrial plasmid transcript," <u>Proc. Natl. Acad. Sci. USA</u> , 1991, 88:8826-8830
	AGGGG	Scanlon et al., "Ribozyme-mediated cleavage of c-fos mRNA reduces gene expression of DNA synthesis enzymes and metallothionein," <u>Proc. Natl. Acad. Sci. USA</u> , 1991, 88:10591-10595
	AHHHH	Soriano et al., "Targeted and nontargeted liposomes for <i>in vivo</i> transfer to rat liver cells of a plasmid containing the preproinsulin I gene," <u>Proc. Natl. Acad. Sci. USA</u> , 1983, 80:7128-7131

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	AIIII	Spector and Samaniego, "Construction and Isolation of Recombinant Adenoviruses with Gene Replacements," <u>Methods in Molecular Genetics</u> , Adolph (ed.), 1995, Academic Press, Inc., San Diego, CA, Vol. 7, pp. 31-44
	AJJJJ	Stein and Cohen, "Oligodeoxynucleotides as Inhibitors of Gene Expression: A Review," <u>Cancer Res.</u> , 1988, 48:2659-2668
	AKKKK	Suzuki et al., "Heme oxygenase-1 gene induction as an intrinsic regulation against delayed cerebral vasospasm in rats," <u>J. Clin. Invest.</u> , 1999, 104:59-66
	ALLLL	Thierry and Dritschilo, "Intracellular availability of unmodified, phosphorothioated and liposomally encapsulated oligodeoxynucleotides for antisense activity," <u>Nucleic Acids Res.</u> , 1992, 20(21):5691-5698
	AMMMM	Thomas et al., "Peripheral infection with adenovirus causes unexpected long-term brain inflammation in animals injected intracranially with first-generation, but not with high-capacity, adenovirus vectors: Toward realistic long-term neurological gene therapy for chronic diseases," <u>Proc. Natl. Acad. Sci. USA</u> , 2000, 97(13):7482-7487
	ANNNN	Toyoda et al., "Gene transfer of calcitonin gene-related peptide to cerebral arteries," <u>Am. J. Physiol. Heart Circ. Physiol.</u> , 2000, 278:H586-H594
	AOOOO	Toyoda et al., "Calcium phosphate precipitates augment adenovirus-mediated gene transfer to blood vessels in vitro in vivo," <u>Gene Therapy</u> , 2000, 7:124-129
	APPPP	van der Krol et al., "Modulation of Eukaryotic Gene Expression by Complementary RNA or DNA Sequences," <u>BioTechniques</u> , 1988, 6(10):958-975
	AQQQQ	Vassalli et al., "A Mouse Model of Arterial Gene Transfer Antigen-Specific Immunity Is a Minor Determinant of the Early Loss of Adenovirus-Mediated Transgene Expression," <u>Circ. Res.</u> , 1999, 85:e25-e32
	ARRRR	von der Leyen et al., "Gene therapy inhibiting neointimal vascular lesion: <i>In vivo</i> transfer of endothelial cell nitric oxide synthase gene," <u>Proc. Natl. Acad. Sci. USA</u> , 1995, 92:1137-1141
	ASSSS	Walder, "Antisense DNA and RNA: progress and prospects," <u>Genes &amp; Development</u> , 1988, 2:502-504
	ATTTT	Wang and Huang, "pH-sensitive immunoliposomes mediate target-cell-specific delivery and controlled expression of a foreign gene in mouse," <u>Proc. Natl. Acad. Sci. USA</u> , 1987, 84:7851-7855
	AUUUU	Weerasinghe et al., "Resistance to Human Immunodeficiency Virus Type 1 (HIV-1) Infection in Human CD4 <sup>+</sup> Lymphocyte-Derived Cell Lines Conferred by Using Retroviral Vectors Expressing an HIV-1 RNA-Specific Ribozyme," <u>J. Virol.</u> , 1991, 65(10):5531-5534
	AVVVV	Wen et al., "Second-Generation Adenoviral Vectors Do Not Prevent Rapid Loss of Transgene Expression and Vector DNA From the Arterial Wall," <u>Arterioscler. Thromb. Vasc. Biol.</u> , 2000, 20:1452-1458
	AWWWW	Wickham et al., "Integrins $\alpha_v\beta_3$ $\alpha_v\beta_5$ Promote Adenovirus Internalization but Not Virus Attachment," <u>Cell</u> , 73:309-319
	AXXXX	Wolff et al., "Direct Gene Transfer into Mouse Muscle in Vivo," <u>Science</u> , 1990, 247:1465-1468
	AYYYY	Wood et al., "Immune responses to adenovirus vectors in the nervous system," <u>Trends in Neurosciences</u> , 1996, 19(11):497-500
	AZZZZ	Woolf et al., "Specificity of antisense oligonucleotides <i>in vivo</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 1992, 89:7305-7309

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	AAAAA	Yei et al., "Adenovirus-mediated gene transfer for cystic fibrosis: quantitative evaluation of repeated in vivo vector administration to the lung," <u>Gene Therapy</u> , 1994, 1(3):192-200
	ABBBB	Zhu et al., "Systemic Gene Expression After Intravenous DNA Delivery into Adult Mice," <u>Science</u> , 1993, 261:209-211
	ACCCC	Zon, "Synthesis of Backbone-Modified DNA Analogues for Biological Applications," <u>J. Protein Chem.</u> , 1987, 6(2):131-145
	ADDDD	Zon, "Oligonucleotide Analogues as Potential Chemotherapeutic Agents," <u>Pharmaceutical Res.</u> , 1988, 5(9):539-549

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